

## A first record of *Pterodroma feae* from the Azores

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The classification of gadfly petrels allied to the Soft-plumaged Petrel *Pterodroma mollis* has been the subject of considerable uncertainty. Two northern forms are very rare and their future status is a matter of concern (Collar & Stuart 1985). *P. (mollis) madeira* is known from a single colony on mainland Madeira where a few dozen pairs have recently been recorded (Zino & Zino 1986). *P. (mollis) feae* is known from Bugio in the Deserta group near Madeira and from four islands in the Cape Verde archipelago with a known world population of a few hundred pairs (de Naurois 1969, Zino & Zino 1986). Wailing calls suggested to be one of these birds were also heard over Great Salvage Island on the nights of 19 and 20 June 1983 (James & Robertson 1985). Both forms are listed in the Red Data Book, respectively as endangered and rare (Collar & Stuart 1985). The nominate form is widely distributed in the southern ocean.

Bourne (1983) has abandoned his previous (1957) taxonomic caution and suggested that the three races should be regarded as separate species. This view has been supported by Imber (1985). Cape Verde and Bugio birds do not appear to differ sufficiently to justify previous subspecific separation. Although the two northern species nest within about 30 km of each other in Madeira, they differ considerably in size and timing of breeding (Zino & Zino 1986). Which of the two northern species is most like *P. m. mollis* of the southern ocean is unclear as is the question of their relationship to the Bermuda Petrel *P. cahow* (Murphy & Mowbray 1951, Bourne 1966). The Bermuda Petrel is also very rare but has received rather more conservation attention (Lever 1984). A missing *Pterodroma* on the Azores has long been predicted (Bourne 1965) and could form a link between *P. feae* and *P. cahow*. If found, its appearance could contribute to the resolution of such taxonomic questions.

Some ambiguity surrounds the vernacular names given to these birds. For *P. feae*, Bourne suggested that the name Gon-gon by which the Cape Verde birds are said to be known locally is an onomatopoeia. It seems hard to believe that the wailing calls recorded by Zino on Bugio could be rendered as anything like 'gon-gon', but perhaps the burrow call has yet to be recorded. When it was proposed as a separate species, Bourne suggested that *P. madeira* should take the vernacular name of Freira by which both species have long been known locally in Madeira. Madeiran ornithologists distinguish the two species in the vernacular by location in their islands (Bugio freira and Madeira freira), which is not very satisfactory as *P. feae* also occurs at Cape Verde. *P. feae* could more simply be known as Fea's Petrel after the collector of the first described specimen from Cape Verde. This name was used by Bannerman & Bannerman (1966). Until the taxonomy of the group is clarified the most widely published names, Gon-gon and Freira, are the least ambiguous.

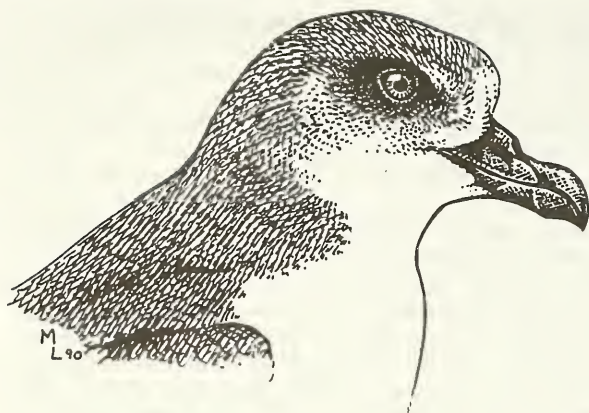


Figure 1. *Pterodroma* caught on the Azores, 28 June 1990. Drawn by M. Langman from a photograph.

### Observations

In conjunction with the Universidade dos Azores and as part of a long-term involvement in the study and conservation of Azorean seabirds, we made a number of visits to off-shore stacks and islets, to investigate the status of breeding seabirds. Where possible an overnight stay was made and mist nets were used to catch, ring and record biometrics of nocturnal seabirds. Trapping and recapture took place on several nights in an attempt to establish initial population estimates. During one of these sessions, we caught a gadfly petrel shortly after midnight on 28 June 1990.

The bird was broadly white below and grey-brown above with a much paler dove-grey tail. The dark grey to black surrounding the eye, the steep white forehead, mottled with grey, and the large heavy bill were prominent features (Fig. 1). The flanks were white, lightly mottled with grey. A collar of slightly darker grey than the mantle extended some 5–10 mm onto the foreneck/upper breast. The axillaries were pure white with some grey flecking at the tips of the feathers. The lesser underwing coverts were pale brown and contrasted with the darker edges of the rest of the underwing. The underwing pattern was probably not sufficiently clear as to show markedly in the field.

The Madeira and Bugio birds are not yet known to differ in any plumage features although the latter appears to be rather more mottled on the flanks. Our bird matched descriptions and photographs of these two species without obvious exception. It had no suggestion of the white rump of either the Bermuda Petrel or Black-capped Petrel *P. hasitata* nor of such bold underwing pattern as illustrated by Harrison (1983). It lacked the dark breast band of the typical form of Soft-plumaged Petrel *P. m. mollis*.

Critical measurements compared with means from Bugio and Madeira (Zino & Zino 1986), Cape Verde (Jouanin *et al.* 1969) and the type specimen of *P. cahow* (Nichols & Mowbray 1916) measured by Bourne (*in litt.*) thus:

	Azores 1990	Bugio <i>P. feae</i>	Cape Verde <i>P. feae</i>	Madeira <i>P. madeira</i>	Bermuda <i>P. cahow</i>
Weight (g)	325	311		204	
Wing-length (mm)	270	268	266	247	260
Tarsus (mm)	35.6	35.8	34.6	32.9	36
Mid toe (mm)	45.0	46.4	46.1	42.5	51
Tail (mm)	128	110	105	104	124
Bill-length (mm)	29.7	29.1	28.6	25.0	30

The two eastern Atlantic species are readily separated on size. Our bird was clearly similar to that found on Bugio. In all cases, our measurements fell within the given range for *feae* and, with the exception of tarsus, exceeded the range of *madeira*. The range for tail-length of *feae* given by Zino & Zino seems excessively large. The standard deviation from 6 measurements is given as 2.66 (Cramp & Simmons 1977), so in this respect our bird was closer to *P. cahow* and significantly longer-tailed than *feae*.

The bird had a moderately well developed brood patch and the pink inner third of the foot webs was markedly vascularised. This evidence is not sufficient to prove that our bird was breeding on the island, but since its breeding season would be expected to be rather later (as on Bugio) it is an early date for a pre-breeding immature to be ashore with a brood patch.

Although we did not at the time know the calls of this species, we did not hear any unexpected noises to indicate their presence. This was perhaps unsurprising since there were some 10,000 Cory's Shearwaters *Calonectris diomedea* inshore at dusk and their calls were overwhelming. Even the very recognisable calls of Madeiran Storm-petrel *Oceanodroma castro* were difficult to pick out. A second visit to the island produced no further records nor did 20 nights on 5 other seabird islets. *P. feae* breeds in the late summer on Bugio, and in winter at Cape Verde (Bourne 1955), so our visits, which did not continue beyond July, might have been too early to make a small breeding colony obvious.

### Conclusion

We have described the first record of the previously predicted occurrence of a gadfly petrel on the Azores. In measurements, it was close to *Pterodroma feae* but with a longer tail more like that of *P. cahow*. In appearance it was similar to *P. feae* from Bugio. W. R. P. Bourne (*in litt.*) suggests that the longer tail and unexpectedly early date for *P. feae* to be ashore with a brood patch may make this the predicted link between *feae* and *cahow*, which should perhaps be classified as a single species.

Fuller consideration of the taxonomy of these birds is required. Attention could be given to voice, parasites and gut morphology (Imber 1985). *P. madeira* and *P. cahow* apparently share a previously undescribed species of *Halipeurus* louse (B. Zonfrillo, *in litt.*). We intend to return to the Azores to attempt to learn more of the status of this bird and collect further information.



We did not prove that this bird breeds in the Azores but it seems quite likely that this is the case. The rocky island with an earth cap fits with the description of the nesting area on Bugio. It can be observed that there is much further exploration to be done in the Azores. Some of the precipitous mountains are still well vegetated and resemble the nesting habitat of *P. madeira* on the Madeiran mainland.

The tiny population of *P. madeira* on Madeira has suffered illegal collection in recent years and eggs have been stolen from Funchal museum. For this reason we have decided not to publish an exact locality for this record until we can ascertain the numbers (if any) breeding in the Azores.

If either species nests on the Azores, this would be a strengthening of their conservation status. We can only endorse Bourne's (1983) observation that they remain sadly neglected compared with the much supported Bermuda Petrel (Lever 1984), though a programme of rat poisoning has recently begun on Madeira (Buckle & Zino 1989).

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